FP104

Spinal tumors in children

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Objective: Non metastatic spinal tumors are rare, also in children. Early and complete surgical removal is the most important prognostic factor. Secondary spinal deformities also need to be addressed surgically in some cases.

Methods: A single institution retrospective study was performed in order to characterize spinal tumors affecting neural structures and the spinal column. Most of the patients were not older than 20 years.

Results: Between 2007 and 2013 a total of 24 patients with spinal tumors were treated surgically in our institution. All intradural tumors were operated via laminoplasty. Mean age was 12.5 years (3 patients > 20 years). 3 tumors were affecting the spinal column, all others neural structures.Tumor localization was lumbar in 9, cervical in 8, thoracic in 3, holocord in 2; and cervico-thoracic with brainstem involvement and thoraco-lumbar in one each. Most frequent histology was ependymoma in 8 cases (grade I in 1, grade II in 3, grade III in 1 and myxopapillary grade I in 2 and II in 1). Pilocytic astrocytoma was found in 3 patients; ganglioglioama, ganglioneuroma, ATRT, neuroblastoma, mesenchymal chondrosarcoma of the conus and medulloblastoma in one each. There were 4 patients with nerve root tumors (neurofibroma 2, neurinoma 2) and 3 with spinal column tumors (Ewing sarcoma, osteoblastoma, osteoid osteoma). 12 patients did not receive adjuvant treatment, 4 patients adjuvant radio-chemotherapy, 2 chemotherapy alone and 1 only radiotherapy. 14 patients showed complete remission, 6 stable diseases (3 after second surgery due to recurrent tumor), 2 had progressive disease. 3 patients died and 2 are LOF. 3 patients with complete remission suffered from a malignant tumor. One child with a diffuse benign holocord tumor died. Mean follow up was 2.4 years. 4 patients required additional instrumentation due to secondary spinal deformity. Reoperation due to recurrent tumor became necessary in 3 ependymoma and 2 pilocytic astrocytoma cases.

Conclusion: As well as in braintumors the histological variety of spinal tumors in childhood is broad. Most often ependymoma and pilocytic astrocytoma are found. Both of these entities have a higher rate of local recurrence. Prognosis is not always depending on tumor grading. Secondary instrumentation becomes necessary in 17%.